IN THE CLAIMS

Please amend the claims as follows:

Claims 1-6 (Canceled).

Claim 7 (Currently Amended): A method for control of a motorization system including a diesel engine, an air-intake circuit, and an exhaust circuit for exhaust gas originating from the engine, the intake circuit including an adjusting mechanism for controlling flow of air entering the engine and the exhaust circuit including a nitrogen oxides trap for storage of nitrogen oxides contained in the exhaust gases, the method performing a regeneration mode to regenerate the nitrogen oxides trap by supplying reducing exhaust gases, the method comprising:

determining an index value of air flow corresponding to an operating point of the engine during the regeneration mode;

instructing the adjusting mechanism to obtain an air flow close to the index value;

measuring a variable back-pressure in the exhaust circuit; [[and]]

performing a primary and secondary injection of fuel, the secondary injection being performed during an expansion phase and operative to maintain the exhaust gases in [[the]] a reducing state[[,]]; and

~~wherein said primary and secondary injections are performed~~ maintaining a constant fuel flow amount of the primary injection, increasing a fuel flow amount of the secondary injection, and increasing the air flow according to an increase in the variable back-pressure such that said diesel engine delivers a constant torque during a transition to said regeneration mode.

Claim 8 (Currently Amended): A method according to claim 7, wherein the motorization system is provided with an accessory that generates [[a]] the variable back-pressure in the exhaust circuit, and the air-flow index value is incremented together with the exhaust back-pressure.

Claim 9 (Currently Amended): A method according to claim 8, wherein the accessory that generates [[a]] the variable back-pressure is a particle filter, the air-flow index value being corrected by a factor that is a function of the operating point and of [[the]] a degree of loading of the particle filter.

Claim 10 (Currently Amended): A method according to claim 9, wherein the degree of loading of the particle filter is evaluated by [[the]] an exhaust-gas flow passing through it and by a pressure difference between [[the]] an inlet and an outlet of the particle filter.

Claim 11 (Currently Amended): A method according to claim 9, wherein the degree of loading of the particle filter is evaluated by measuring pressure upstream from the particle filter relative to [[the]] an exhaust-gas flow.

Claim 12 (Currently Amended): A motorization system implementing a method for control of the motorization system, the motorization system comprising:

a diesel engine;

an air-intake circuit including an adjusting mechanism for controlling a flow of air entering the engine; [[and]]

an exhaust circuit ~~for~~ to exhaust gas originating from the engine, ~~the intake circuit including an adjusting mechanism for controlling flow of air entering the engine and the~~

~~exhaust circuit~~ including a nitrogen oxides trap ~~for storage of~~ to store nitrogen oxides contained in the exhaust gases; and

~~the method performing~~ a control unit that implements a regeneration mode to regenerate the nitrogen oxides trap by supplying reducing exhaust gases, ~~the method comprising:~~ wherein the control unit

~~determining~~ determines an index value of air flow corresponding to an operating point of the engine during the regeneration mode;

~~instructing~~ instructs the adjusting mechanism to obtain an air flow close to the index value; [[and]]

measures a variable back-pressure in the exhaust circuit;

~~performing~~ initiates a primary and secondary injection of fuel, the secondary injection being performed during an expansion phase and operative to maintain the exhaust gases in [[the]] a reducing state[[,]]; and

~~wherein said primary and secondary injections are performed~~ maintains a constant fuel flow amount of the primary injection, increases a fuel flow amount of the secondary injection, and increases the air flow according to an increase in the variable back-pressure such that said diesel engine delivers a constant torque during a transition to said regeneration mode.

Claim 13 (Currently Amended): A method according to claim 7, wherein ~~during said primary injection, a quantity of fuel injected into said engine is reduced when said air flow increases, and,~~ during said ~~secondary injection~~ regeneration mode, said ~~quantity of~~ fuel flow amount of the secondary injection is increased so as to maintain a richness of said exhaust gas higher than 1, and to maintain said constant torque.

Claim 14 (Previously Presented): A method according to claim 13, further comprising measuring said richness of said exhaust gas with a sensor positioned upstream of said nitrogen oxides trap.

Claim 15 (Previously Presented): A method according to claim 9, further comprising measuring a richness of said exhaust gas with a sensor positioned upstream of said particle filter.

Claims 16 and 17 (Canceled).

Claim 18 (New): A method for control of a motorization system including a diesel engine, an air-intake circuit, and an exhaust circuit for exhaust gas originating from the engine, the intake circuit including an adjusting mechanism for controlling flow of air entering the engine and the exhaust circuit including a nitrogen oxides trap for storage of nitrogen oxides contained in the exhaust gases, the method performing a regeneration mode to regenerate the nitrogen oxides trap by supplying reducing exhaust gases, the method comprising:

determining an index value of air flow corresponding to an operating point of the engine during the regeneration mode;

instructing the adjusting mechanism to obtain an air flow close to the index value;

measuring a variable back-pressure in the exhaust circuit;

performing a primary and secondary injection of fuel, the secondary injection being performed during an expansion phase and operative to maintain the exhaust gases in a reducing state; and

increasing a fuel flow amount of the primary injection, decreasing a fuel flow amount of the secondary injection, and maintaining the air flow at a constant amount according to an increase in the variable back-pressure such that said diesel engine delivers a constant torque during a transition to said regeneration mode.

Claim 19 (New): A method according to claim 18, wherein the motorization system is provided with an accessory that generates the variable back-pressure in the exhaust circuit, and the air-flow index value is incremented together with the exhaust back-pressure.

Claim 20 (New): A method according to claim 19, wherein the accessory that generates the variable back-pressure is a particle filter, the air-flow index value being corrected by a factor that is a function of the operating point and of a degree of loading of the particle filter.

Claim 21 (New): A method according to claim 20, wherein the degree of loading of the particle filter is evaluated by an exhaust-gas flow passing through the particle filter and by a pressure difference between an inlet and an outlet of the particle filter.

Claim 22 (New): A method according to claim 20, wherein the degree of loading of the particle filter is evaluated by measuring pressure upstream from the particle filter relative to an exhaust-gas flow.

Claim 23 (New): A method according to claim 18, wherein, during said regeneration mode, the fuel flow amount of the secondary injection is increased so as to maintain a richness of said exhaust gas higher than 1, and to maintain said constant torque.

Claim 24 (New): A method according to claim 23, further comprising measuring said richness of said exhaust gas with a sensor positioned upstream of said nitrogen oxides trap.

Claim 25 (New): A method according to claim 20, further comprising measuring a richness of said exhaust gas with a sensor positioned upstream of said particle filter.

Claim 26 (New): A motorization system implementing a method for control of the motorization system, the motorization system comprising:

a diesel engine;

an air-intake circuit including an adjusting mechanism to control a flow of air entering the engine;

an exhaust circuit to exhaust gas originating from the engine, including a nitrogen oxides trap to store nitrogen oxides contained in the exhaust gases; and

a control unit that implements a regeneration mode to regenerate the nitrogen oxides trap by supplying reducing exhaust gases, wherein the control unit

determines an index value of air flow corresponding to an operating point of the engine during the regeneration mode;

instructs the adjusting mechanism to obtain an air flow close to the index value;

measures a variable back-pressure in the exhaust circuit;

initiates a primary and secondary injection of fuel, the secondary injection being performed during an expansion phase and operative to maintain the exhaust gases in a reducing state; and

increases a fuel flow amount of the primary injection, decreases a fuel flow amount of the secondary injection, and maintains the air flow at a constant amount according to an increase in the variable back-pressure such that said diesel engine delivers a constant torque during a transition to said regeneration mode.